Washington Environmental Training Center
WETRC

Green River COMMUNITY COLLEGE

Drinking Water and Wastewater Operator Certificate Programs

Drinking Water and Wastewater Operator employment opportunities should be excellent for qualified workers



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A great career exists for you working in the water industries.

A new generation of certified operators are needed to replace retiring operators and managers in the water and wastewater utilities.

A significant percentage of existing certified drinking water and wastewater operators and managers are approaching retirement age, while at the same time there is a lack of trained and knowledgeable replacement operators for entry level positions.

One U. S. city's drinking water system current workforce is comprised of over 1100 employees. This city is projecting that 27% of its workforce will be eligible for retirement by December 2010. Studies have shown that there are fewer people available with the requisite skill sets needed to replace these employees than will be retiring.

The actual number of drinking water and wastewater systems operators and managers in Washington State that will be retiring in the next few years is unknown, but all indicators are that retirements will create a significant lack of trained, qualified operators.

Safe, high quality drinking water as well as safe, reliable collection, treatment and discharge of wastewater is, and should be, expected by the public we serve .

Those responsible for providing safe, high quality, drinking water for public health protection, and for ensuring that wastewater is properly treated to prevent contamination of the environment and public health outbreaks are the certified operators of drinking water distribution systems, drinking water treatment plants and wastewater treatment plants. Operators of these systems must be certified by Washington State. To obtain certification, applicants must meet both education and experience requirements, and demonstrate a minimum level of competency by passing a relevant certification exam.

Training future drinking water and wastewater operators and providing continuing education for experienced operators are significantly important tasks to ensure public health and environmental protection, and is the purpose of this program.

Employment

Water and wastewater treatment plant and system operators held approximately 113,400 jobs in 2008. About 78% of all operators worked for local governments. Others worked for private water or wastewater utilities.

Job Prospects

Job opportunities should be excellent for this environmental field! Because of the expected greater than average employment growth and the significant effect of retirement, there will be a strong demand for new operators to ensure public health and environmental protection. **Opportunities should be best for people with mechanical aptitude and problem-solving skills.**

Jobs Outlook

Water and wastewater system operator jobs are expected to grow much faster than the average for all occupations. Job opportunities should be excellent for qualified workers. Employment of water and wastewater system operators is expected to grow by 20% between 2008 and 2018.

States	Employment		Percent Change	Job Openings *
	2008	2018		
Water and liquid waste treatment plant and system operators	113,400	135,900	+20%	4,690
Washington	**Employment**		**Percent Change**	**Job Openings ***
	2006	**2016**		
Water and liquid waste treatment plant and system operators	1,190	1,310	+10%	

* *Job Openings refers to the average annual job openings due to growth and net replacement. Source: Bureau of Labor Statistics – SOC Code 51-8031.*

Earnings

Median annual wages of water and wastewater system operators were **$38,430 in May 2008.** In addition to their annual salaries, water and wastewater system operators usually receive benefits that may include health and life insurance, a retirement plan, and educational reimbursement for job-related courses.

Location	Pay Period	2008				
		10%	25%	Median	75%	90%
United States	Hourly	$11.40	$14.44	$18.48	$23.38	$28.78
	Yearly	$23,700	$30,000	$38,400	$48,600	$59,900
Washington	Hourly	$17.24	$21.14	$25.34	$29.47	$32.67
	Yearly	$35,900	$44,000	$52,700	$61,300	$68,000

Source: Bureau of Labor Statistics – SOC Code 51-8031.

Program Purpose

The Drinking Water and Wastewater Treatment Plant Operator Certificate Programs are designed to provide students with the knowledge, skills, and abilities to competently work in the drinking water and wastewater industries, along with the technical, scientific and regulatory background to obtain certification.

Intended Audience

The certificate programs target students seeking to begin careers as certified operators in the drinking water and wastewater treatment industries, and the experienced certified operators who want to advance in their careers to levels with higher responsibilities and rewards.

Program Structure

To obtain a certificate in one of the three disciplines, the programs require completion of listed courses. The curriculum is a multi-entry program and can be completed in less than one year. Classes are offered using various delivery methods such as on-line classes, classroom, and flex classes, which provides optimum flexibility for working adult students. Various classes are offered, starting quarterly. Students can enroll and begin a certificate program with any of the required classes at any time. A student must successfully complete all required classes to earn a certificate in one of the three disciplines offered.

Certificate Courses

The certificate program is composed of two tiers that include both core classes relevant to all three certificate programs, and classes specifically designed for each individual certificate program. There are no prerequisite courses, and students may take the courses in any desired order. Students must satisfactorily complete all required classes to earn a certificate of completion.

Tier I

After completing Tier I classes, students will have the basic knowledge needed for entry level employment in the Water Distribution, Water Treatment and Wastewater Treatment industries, and students will meet education requirements to apply for a Washington State Certification Examination to become certified as an "Operator in Training" (OIT) in their chosen career field.

Tier I Core Classes are:

- Arithmetic for Operators
- Operator Reporting and Report Writing
- Utility Worker Safety

Tier I Certificate Specific Classes are:

Water Distribution	Water Treatment	Wastewater Treatment
Anatomy of a Public Drinking Water System	Anatomy of a Public Drinking Water System	Anatomy of a Wastewater System
Water Distribution or Water Works Basics	Water Treatment 1	Municipal Wastewater Treatment 1

Tier II

Tier II classes are designed to provide specific knowledge of various aspects of operation of drinking water and wastewater systems. Upon completion of Tier II classes, students will have an understanding of those topics employers have identified as desirable for job applicants to have prior to employment.

Tier II Core Classes are:

- Drawings and Manuals
- Water Hydraulics
- Pumps and Pumping Systems
- Disinfection and Chemical Feed Systems
- Water and Wastewater Electrical

Tier II Certificate Specific Classes are:

Water Distribution	Water Treatment	Wastewater Treatment
Water Regulations	Water Regulations	Municipal Wastewater Treatment 2
Water Laboratory	Water Laboratory	Wastewater Laboratory
Water Mains Installation, Maintenance and Repair	Source Water Assessment and Water Source Protection	Wastewater Collection
Fire Hydrants Installation, Testing and Repair	Water Treatment 2	
Service Connections and Water Meters		

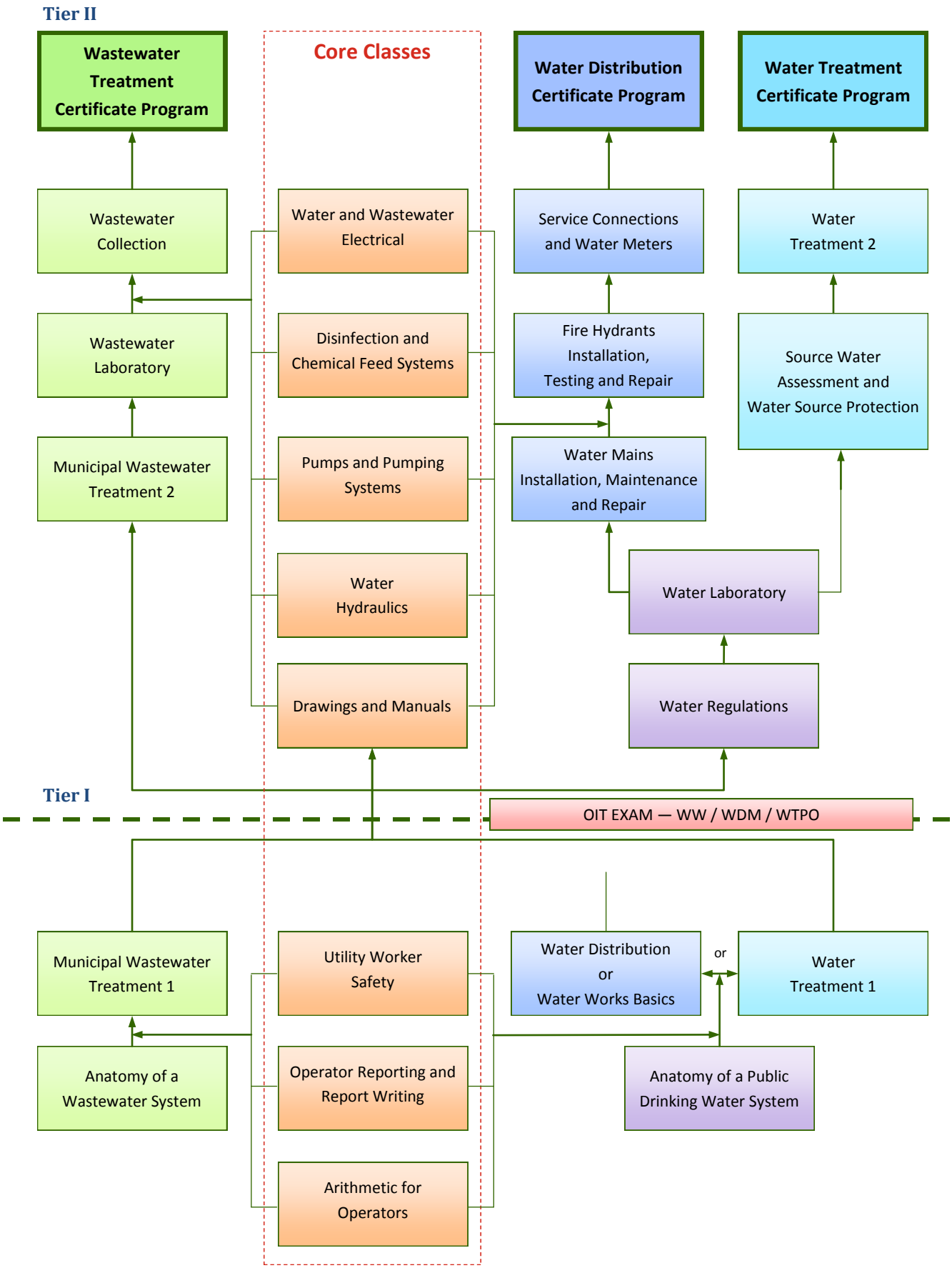
Where to Begin

Students may enter a certificate program at any time, taking any course offered. There are no prerequisites although the instructor may make recommendations based upon the student's background. It is recommended that students consider completing the Tier I courses prior to taking courses listed as Tier II.

It is recommended that students start with either "The Anatomy of a Public Drinking Water System" to enter either the Water Distribution or the Water Treatment Certificate programs, or begin with the "Anatomy of a Wastewater System" to enter the Wastewater Treatment Certificate program.

If a student has little knowledge of the drinking water and wastewater industries, they may benefit from taking both the "The Anatomy of a Public Drinking Water System" and the "Anatomy of a Wastewater System" classes prior to selecting a certificate path. Core courses apply to all three certificate paths. Classes are offered either as e-learning, in a classroom, or as flex classes, which include a combination of e-learning and classroom components.

Carnation Treatment Plant, Washington


Tier II
Wastewater Treatment Certificate Program
Core Classes
Water Distribution Certificate Program
Water Treatment Certificate Program
Wastewater Collection
Water and Wastewater Electrical
Service Connections and Water Meters
Water Treatment 2
Wastewater Laboratory
Disinfection and Chemical Feed Systems
Fire Hydrants Installation, Testing and Repair
Source Water Assessment and Water Source Protection
Municipal Wastewater Treatment 2
Pumps and Pumping Systems
Water Mains Installation, Maintenance and Repair
Water Hydraulics
Water Laboratory
Drawings and Manuals
Water Regulations
Tier I
OIT EXAM — WW / WDM / WTPO
Municipal Wastewater Treatment 1
Utility Worker Safety
Water Distribution or Water Works Basics
or
Water Treatment 1
Anatomy of a Wastewater System
Operator Reporting and Report Writing
Anatomy of a Public Drinking Water System
Arithmetic for Operators